



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/662,751

09/15/2003

James D. Goss

67397-036 PUS1

1549

54549

7590

02/11/2008

CARLSON, GASKEY & OLDS/PRATT & WHITNEY

400 WEST MAPLE ROAD

SUITE 350

BIRMINGHAM, MI 48009

EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT

PAPER NUMBER

3682

MAIL DATE

DELIVERY MODE

02/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/662,751

Applicant(s)

GOSS ET AL.

Examiner

JUSTIN KRAUSE

Art Unit

3682

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8, 10-16, 26, 28, 32-35 and 37-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 10-16, 26, 28, 32-35 and 37-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-849)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Belleville washer is not disclosed within the specification.

The amendment filed November 27, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The replacement drawings filed now disclose features on both sides of the planar spring. In the drawings as originally filed, raised areas are disclosed on one side. Even with the improper cross hatching in figure 6, there is only a single raised area disclosed in the original drawings, the new drawings add raised sections to the opposite surface of the planar spring, as shown in new figures 2 and 6, but not shown in original figures 2 and 6. There is nothing that can be discerned from original figure 6 that is a raised surface on both sides of the planar spring. The newly added language in paragraph 0024 is also new matter, as there is no evidence showing that applicant had possession of the knowledge of raised portions on opposing sides of the planar spring that are offset from each other, nor do the originally filed drawings show such an arrangement.

Applicant is required to cancel the new matter in the reply to this Office Action.

The disclosure is objected to because of the following informalities: Applicant's Specification amendment eliminates the word "Belleville" from paragraph 024 without striking the word from the text. It cannot be determined if this is an oversight or if "Belleville" was intentionally removed from the specification.

Appropriate correction is required.

Claim Objections

Claim 39 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 37. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). It is unclear what applicant regards as the distinction between a Belleville washer and a Belleville spring. Applicant should provide evidentiary support for what is regarded as the difference between the elements.

Claim 29 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 29 adds a functional recitation of what the device is intended to do without further limiting the structure of the device claimed in claim 26.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13-15, 26-29, 32-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not understood from the disclosure how the generally planar spring compresses into a wave shape. As shown in the drawings, the spring has one flat side, and the opposite side has protrusions. The flat side rests against a flat shoulder. When two flat surfaces are resting against each other, it is not understood how compression creates a wave shape. It would seem as if the spring would serve as a spacer, and not form a wave shape, as the flat surfaces would not deflect with respect to each other.

Additionally, there is no disclosure for the use of a "Belleville washer". It is unknown at the time of invention whether applicant possessed the knowledge to use a Belleville washer as the generally planar spring.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 10-16, 26, 28, 32-35, and 37-42, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Baninger (US Patent 1,851,561).

Baninger discloses a bearing assembly comprising:

- a first bearing having first inner race (68) and a first outer race (80)
- a first bearing cup (84) disposed at least partially around the first bearing and secured to the first outer race, including a tang (90) and a plurality of teeth (88)
- a plurality of first rolling elements disposed between the first inner and outer races (76)
- a second inner race (70) and a second outer race (82)
- a second bearing cup (86) mounted at least partially about the second outer race secured to the second outer race and including a plurality of teeth and slots (88)
- a second plurality of rolling elements (78) disposed between the second inner and outer races
- the first bearing cup and second bearing cup interlock, such that the first bearing cup allows only a predetermined limited amount of rotational movement of the

second bearing cup, while allowing a predetermined degree of axial movement (page 2 lines 45-55).

The bearing assembly further comprises a generally planar spring (100, 102) in contact with both the first and second bearing cup. The generally planar spring contacts both cups and defines a wave shape under preload. The preload need not be complete, any preload would satisfy the claim, and so long as the spring is not fully compressed, a wave shape exists.

The first bearing cup includes a plurality of circumferentially arranged slots around a perimeter portion for engaging with the teeth of the second bearing cup and visa versa.

The bearing cups include shoulders (96) extending radially inward from an inner surface, the shoulders abut the outer races.

Regarding claim 11, the slots are larger than the teeth, to permit the slots and teeth to interlock with each other.

Regarding claim 15, a shim (72) is disposed between the inner races.

Regarding claim 16, the bearings are secured to the cups by interference fit.

Regarding claim 32, the rolling elements comprise balls.

Regarding claims 37-42, as best understood, the spring of Banninger satisfies the limitations of Belleville washer, Belleville spring and cylindrical beam spring. The spring is cylindrical and has a width, forming a beam, and the spring is a Belleville washer, which is a Belleville spring.

Response to Arguments

Applicant's arguments filed November 27, 2007 have been fully considered but they are not persuasive. Applicant's arguments are unsupported by evidence that one skilled in the art would know or be able to determine from the original specification and drawings that the spring creates a wave shape. With regard to applicant's argument that Figure 6 shows raised areas on both sides of the spring, the examiner disagrees. Even with improper crosshatching, there is no feature found in the drawing that could even remotely be considered or interpreted a raised area on the opposite side of the planar spring 38 from the single raised area shown in the originally filed drawings. A review of the original drawing compared with the replacement figure 6 filed on November 27, 2007, accompanied by the additional language in paragraph 0024 of the specification to define the "cylindrical beam spring" in response to the previous office action clearly shows the addition of raised areas the opposite side of the planar spring, not previously shown or discussed within the disclosure.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN KRAUSE whose telephone number is (571)272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./
Examiner, Art Unit 3682

Application/Control Number: 10/662,751
Art Unit: 3682

Page 9

/Richard WL Ridley/

Supervisory Patent Examiner, Art Unit 3682